

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended): A file processing apparatus comprising a computer processor, said file processing apparatus including:

an attribute input unit which acquires a value of an attribute for at least one file from the computer processor in order to represent a value of a predetermined attribute for an intended file as a physical weight and a density, said attribute comprising at least one of: a date and time of file preparation, a date and time of file updating, an importance of the file to be set by the user, a type of file to be determined by data format or file usage, a number of times that the file is updated, and a parameter indicating a frequency of file updating;

a comparison processing unit which compares the value of the attribute with a reference value;

a position determining unit which sets a relative display position of a predetermined object within a range of motion defined by the reference value, wherein the relative display position represents the physical weight and the density of the attribute relative to the reference value, wherein the relative display position is set based on a result obtained from said comparison processing unit; and

a display processing unit which visually represents the value of the attribute in terms of whether the physical weight and the density of the predetermined object is heavy or light, wherein an initial display position of the predetermined object is set by said position determining unit, and wherein the display processing unit visually represents a virtual buoyant force exerted

on the predetermined object in at least one direction to displace the predetermined object from the initial display position to the relative display position within the range of motion.

2. (Previously Presented): The file processing apparatus according to Claim 1, further including an inclination detector which detects inclination of a predetermined region in the file processing apparatus operated by a user, wherein according to the inclination detected by said inclination detector said position determining unit varies the relative display position and the direction in which the virtual force is exerted.

3. (Previously Presented): The file processing apparatus according to Claim 1, wherein said attribute input unit acquires values of the attribute for a plurality of files, said comparison processing unit sets a value of an attribute for at least one of the plurality of files to the reference value, said position determining unit sets relative display positions of a plurality of objects corresponding to the plurality of files, respectively, and wherein said display processing unit displays the plurality of files at the respective display positions and visually represents the comparison of weights of the files via another object representative of the measurement of the weights.

4. (Previously Presented): The file processing apparatus according to Claim 3, wherein said comparison processing unit sets, as the reference value, a size of a storage area that stores at least one file, said position determining unit sets a relative display position of an object indicative of the storage area according to the size of the storage area, and wherein said display

processing unit visually expresses the comparison of data size between the at least one file and the storage area via the another object.

5. (Previously Presented): The file processing apparatus according to Claim 1, wherein said attribute input unit acquires values of an attribute for a plurality of files and said comparison processing unit classifies the plurality of files into a plurality of groups according to the respective values of the attribute, and wherein said display processing unit displays the object in an appearance corresponding to the respective groups.

6. (Previously Presented): The file processing apparatus according to Claim 1, wherein said attribute input unit acquires values of an attribute for a plurality of files, said comparison processing unit classifies the plurality of files into a plurality of classes and sequentially compares the values of an attribute for each class, wherein, after relative display positions are temporarily determined respectively as positions that initially display objects for the plurality of files, said position determining unit sequentially updates the relative display positions in a manner such that comparison results for each class are reflected for each class, and wherein said display processing unit varies the display of the objects according to said updating after the plurality of files are displayed at the temporally determined relative display positions.

7. (Previously Presented): The file processing apparatus according to Claim 5, further including a vibration detector which detects a swaying motion at a predetermined region of the file processing apparatus operated by a user, wherein said comparison processing unit performs a comparison processing when the motion is detected, and said position determining unit updates

the relative display position according to the result obtained from said comparison processing unit.

8. (Previously Presented): The file processing apparatus according to Claim 6, further including a vibration detector which detects a swaying motion at a predetermined region of the file processing apparatus operated by a user, wherein said comparison processing unit performs a comparison processing when the motion is detected, and said position determining unit updates the relative display position according to the result obtained from said comparison processing unit.

9. (Previously Presented): The file processing apparatus according to Claim 1, further including:

an instruction receiving unit which receives an instruction from a user intending to change the display position of the object; and

an effect generator which causes, based on the instruction, said position determining unit and said display processing unit to process a change in any of position, shape and appearance of the object.

10. (Currently Amended): A method of processing files in a processing device, comprising:

acquiring a value of an attribute for at least one file from a computer processor in order to represent a value of a predetermined attribute for an intended file as a physical weight and a density, said attribute comprising at least one of: a date and time of file preparation, a date and

time of file updating, an importance of the file to be set by the user, a type of file to be determined by data format or file usage, a number of times that the file is updated, and a parameter indicating a frequency of file updating;

comparing the value of the attribute with a reference value;

setting a relative display position of a predetermined object within a range of motion defined by the reference value, wherein the relative display position represents the physical weight and the density of the attribute relative to the reference value, wherein the relative display position is set based on a result obtained from the comparison step; and

visually representing the value of the attribute in terms of whether the physical weight and the density of the predetermined object is heavy or light, wherein an initial display position of the predetermined object is set, and wherein the visual representation comprises a virtual buoyant force exerted on the predetermined object in at least one direction to displace the predetermined object from the initial display position to the relative display position within the range of motion

11. (Previously Presented): The method of processing files according to Claim 10, further including:

detecting inclination of a predetermined apparatus operated by a user; and

varying the relative display positions and the direction in which the virtual force is exerted according to the inclination.

12. (Currently Amended): A method of processing files in a processing device, comprising:

acquiring values of a predetermined attribute for a plurality of intended files in order to represent the values of a predetermined attribute for the intended files as a physical weight and a density, said attribute comprising at least one of: a date and time of file preparation, a date and time of file updating, an importance of the file to be set by the user, a type of file to be determined by data format or file usage, a number of times that the file is updated, and a parameter indicating a frequency of file updating;

comparing each of the values of the attribute with a reference value;

setting, for each of the plurality of files, relative display positions of predetermined objects within a range of motion defined by the reference value, wherein the relative display positions represents the physical weight and the density of the attribute relative to the reference value, and wherein the relative display positions are set based on a result obtained from the comparison step; and

visually representing the value of the attribute in terms of whether the respective physical weights and densities of the predetermined objects is heavy or light, wherein an initial display position of each of the predetermined objects is set, and wherein the visual representation comprises a virtual buoyant force exerted on each the predetermined objects in at least one direction to displace each of the predetermined objects from the initial display position to the relative display position within the range of motion.

13. (Previously Presented): The method of processing files according to Claim 12, wherein said acquiring further acquires a size of a storage area that stores at least one file, and

said setting sets the relative display position of at least one object corresponding to the at least one file, based on a comparison result obtained by comparing a data size between the at least one object and the storage area, and wherein said displaying and expressing represents visually the comparison result via the another object.

14. (Currently Amended): A method of processing files in a processing device, comprising:

acquiring values of a predetermined attribute for a plurality of files, in order to represent the values of a predetermined attribute for intended files as a physical weight and a density, said attribute comprising at least one of: a date and time of file preparation, a date and time of file updating, an importance of the file to be set by the user, a type of file to be determined by data format or file usage, a number of times that the file is updated, and a parameter indicating a frequency of file updating;

comparing each of the values of the attribute with a reference value;

setting a temporary sequence range for each of the plurality of files, said sequence range being defined by the reference value;

determining, based on the temporary sequence range, a temporary display position of a predetermined object that symbolically represents one of the files in terms of whether the physical weight and the density thereof is heavy or light;

displaying the predetermined object that represents the one of the files, at the temporary display position on a screen;

comparing the values of the predetermined attribute between adjacent files in the temporary sequence;

updating the display position based on a comparison result of comparing adjacent files; and

visually representing the value of the attribute in terms of whether the respective physical weights and densities of the predetermined objects is heavy or light, wherein the visual representation comprises a virtual buoyant force exerted on the predetermined object in at least one direction to displace the predetermined object from the temporary display position to the updated display position within the sequence range.

15. (Previously Presented): The method of processing files according to Claim 14, further including:

detecting a swaying motion of a predetermined apparatus operated by a user; performing said comparing when the swaying motion is detected in said detecting; updating a relative display position of the object according to the comparison result.

16. (Previously Presented): The method of processing files according to Claim 10, further including:

acquiring an instruction from a user who intends to cause a display position of the object to be changed; and changing at least one of position, shape and appearance of the object, based on the instruction.

Claims 17-19. (Canceled).

20. (Currently Amended): A computer-readable recording medium which stores a program executable by a computer, the program including the functions of:

acquiring a value of an attribute for at least one file from a computer processor in order to represent a value of a predetermined attribute for an intended file as a physical weight and a density, said predetermined attribute comprising at least one of: a date and time of file preparation, a date and time of file updating, an importance of the file to be set by the user, a type of file to be determined by data format or file usage, a number of times that the file is updated, and a parameter indicating a frequency of file updating;

comparing the value of the attribute with a reference value;

setting a relative display position of a predetermined object within a range of motion defined by the reference value, wherein the relative display position represents the physical weight and the density of the attribute relative to the reference value, wherein the relative display position is set based on a result obtained from the comparison step; and

visually representing the value of the attribute in terms of whether the physical weight and the density of the predetermined object is heavy or light, wherein an initial display position of the predetermined object is set, and wherein the visual representation comprises a virtual buoyant force exerted on the predetermined object in at least one direction to displace the predetermined object from the initial display position to the relative display position within the range of motion.

21. (Currently Amended): A computer-readable recording medium which stores a program executable by a computer, the program including the functions of:

acquiring values of a predetermined attribute for a plurality of intended files in order to represent the values of a predetermined attribute for the intended files as a physical weight and a density, said attribute comprising at least one of: a date and time of file preparation, a date and time of file updating, an importance of the file to be set by the user, a type of file to be determined by data format or file usage, a number of times that the file is updated, and a parameter indicating a frequency of file updating;

comparing each of the values of the attribute with a reference value;

setting, for each of the plurality of files, relative display positions of predetermined objects within a range of motion defined by the reference value, wherein the relative display positions represents the physical weight and the density of the attribute relative to the reference value, and wherein the relative display positions are set based on a result obtained from the comparison step; and

visually representing the value of the attribute in terms of whether the respective physical weights and densities of the predetermined objects is heavy or light, wherein an initial display position of each of the predetermined objects is set, and wherein the visual representation comprises a virtual buoyant force exerted on each of the predetermined objects in at least one direction to displace each of the predetermined objects from the initial display position to the relative display position within the range of motion.

22. (Currently Amended): A computer-readable recording medium which stores a program executable by a computer, the program including the functions of:

acquiring values of a predetermined attribute for a plurality of files, in order to represent the values of a predetermined attribute for intended files as a physical weight and a density, said

attribute comprising at least one of: a date and time of file preparation, a date and time of file updating, an importance of the file to be set by the user, a type of file to be determined by data format or file usage, a number of times that the file is updated, and a parameter indicating a frequency of file updating;

comparing each of the values of the attribute with a reference value;

setting a temporary sequence range for each the plurality of files, said sequence range being defined by the reference value;

determining, based on the temporary sequence range, a temporary display position of a predetermined object that symbolically represents the files in terms of whether the physical weight and the density thereof is heavy or light;

displaying the predetermined object that corresponds to the plurality of files, at the temporary display position on a screen;

comparing the values of the predetermined attribute between adjacent files in the temporary sequence;

updating the display position based on a comparison result of comparing adjacent files; and

visually representing the value of the attribute in terms of whether the respective physical weights and densities of the predetermined objects is heavy or light, wherein the visual representation comprises a virtual buoyant force exerted on the predetermined object in at least one direction to displace the predetermined object from the temporary display position to the updated display position within the sequence range.

23. (Previously Presented): A file processing apparatus comprising a computer processor, said file processing apparatus including:

an attribute input unit configured to acquire a value of an attribute for at least one file from the computer processor in order to represent the value of the attribute as a density, said attribute comprising at least one of: a date and time of file preparation, a date and time of file updating, an importance of the file to be set by the user, a type of file to be determined by data format or file usage, a number of times that the file is updated, and a parameter indicating a frequency of file updating;

a comparison processing unit that compares the value of the attribute with a reference value

a position determining unit which sets a relative display position of a predetermined object representing the at least one file within a range of motion defined by the reference value, the relative display position representing the value of the attribute relative to the reference value, wherein the relative display position is set based on a result obtained from said comparison processing unit; and

a display processing unit configured to visually represent the value of the attribute in terms of whether the density of the predetermined object is high or low, where an initial display position set by said position determining unit, and wherein the display processing unit visually represents a virtual buoyant force exerted on the predetermined object in at least one direction to displace the predetermined object from the initial display position to the relative display position within the range of motion.

24. (Previously Presented): A method of processing files in a processing device, comprising:

acquiring a value of an attribute for a plurality of intended files from a computer processor in order to represent a value of a predetermined attribute for an intended file as a density, said attribute comprising at least one of: a date and time of file preparation, a date and time of file updating, an importance of the file to be set by the user, a type of file to be determined by data format or file usage, a number of times that the file is updated, and a parameter indicating a frequency of file updating;

comparing the value of the attribute with a reference value;

setting, for each of the plurality of files, initial and relative display positions of predetermined objects within a range of motion defined by the reference value, wherein the objects represent the density of the attribute relative to the reference value, and wherein the relative display positions are set based on a result obtained from the comparison step; and

displaying the objects representing the plurality of files at the respective initial and relative display positions on a screen, and expressing visually a comparison of the density of the objects with each other object via a virtual buoyant force being exerted on the predetermined objects displayed on the screen in at least one direction to displace each of the objects from the initial display position to the relative display position to indicate whether each object comparatively possesses a high or low density.

25. (Previously Presented): A computer-readable recording medium which stores a program executable by a computer, the program including the functions of:

acquiring a value of an attribute for a plurality of intended files from a computer processor in order to represent a value of a predetermined attribute for an intended file as a density, said attribute comprising at least one of: a date and time of file preparation, a date and time of file updating, an importance of the file to be set by the user, a type of file to be determined by data format or file usage, a number of times that the file is updated, and a parameter indicating a frequency of file updating;

comparing the value of the attribute with a reference value;

setting, for each of the plurality of files, initial and relative display positions of predetermined objects within a range of motion defined by the reference value, wherein the objects represent the density of the attribute relative to the reference value, and wherein the relative display positions are set based on a result obtained from the comparison step; and

displaying on a screen the objects of the plurality of files at initial and relative display positions, and expressing visually comparison of the density of the objects with each other object via a virtual buoyant force being exerted on the predetermined objects displayed on the screen in at least one direction to displace each of the objects from the initial display position to the relative display position to indicate whether each object comparatively possesses a high or low density.

26. (Previously Presented): The file processing apparatus according to Claim 1, wherein the attribute includes a data size.

27. (Canceled).